Canute Dalmasse Award Presented to DEC River's Program Manager Mike Kline

Each year since 2007, the ANR leadership team chooses one outstanding staff member to honor with the Canute Dalmasse award. Canute Dalmasse is a former ANR employee, and the award criteria were developed to reflect qualities and characteristics that Canute valued, including dedication to natural resource and public health protection, dedication to co-workers and to the people of Vermont. This year, the Canute Dalmasse award was given to Mike Kline, Rivers Program Manager for the Dept. of Environmental Conservation. Nominated by a co-worker, Kline's 25-year career has been characterized by dedication to science-based river management strategies and to the people he serves.

Under Kline's leadership, the rivers program has become a national model for state government. I was lucky enough to catch up with him recently for an interview.

First, I wanted to know more about Kline's role with the organization. I ask him about what he sees as defining his long career with the rivers program. "I've really focused on the physical sciences in rivers and flood plains," Mike explains. "Rivers are dynamic. For the last two centuries, the European mindset has not been that rivers are dynamic. It is that rivers are where we put them, and they need to stay there. We've learned the hard way that trying to control dynamic rivers is extremely costly and hazardous and environmentally degrading. We've had to learn new ways to resolve the conflicts between people who like things not to change, and rivers that are a metaphor for change. It's only been the last ten or fifteen years where practitioners have been exposed to that perspective, and I just happen to be fortunate to catch the early wave of that in a state where ideas and new things can flourish quickly. So most of my work over the last 10-15 years has centered around trying to find ways to resolve conflicts in the most environmentally sound way, using science as a tool."

Kline goes on to talk about how the Rivers Program that he's help to build is very much focused on relationships, and this intrigues me. I ask him to talk more about this, and Kline obliges. "An example would be the road foreman that has a job to do and a very tight budget and a million things on his mind. We come in and suggest a different approach and as you might imagine, he is probably skeptical at first. But we don't just say this is the way it has to be and have an

engineer send me plans. We're going to be out there in the stream with the road foreman, setting the elevations, and helping with design work to get his job accomplished. If a town is struggling to balance different needs and costs, and we can help them out one time to be able to do something as quickly and efficiently as possible on one occasion, we know that will mean a lot to them, we know that the return for the river environment is ten-fold. So all those little actions amount to trust. And those town officials and large landowners, they come to learn and trust that we're there to work with them."

What does success look like to you, I ask Kline. "As hard as it is to explain a very tough thing like fluvial geomorphology, when we go out to talk with Vermonters, what we find is that they observe the land. They know the rivers, at least the piece that corresponds with their own experience," he begins. "I always like to tell the story about how I was out on a river with a fellow who was maybe 80 years old, and he explained to me how old he was, and how long he'd been watching that river. He believed he could tell what was going on. I said to him you're 80 years old, but that's too young. You're just too young to understand that river. And we proceeded to have a conversation about what that river was up to, in a context of a thousand years, and I was able to take his observations which he had put into a certain framework, and reassemble them and put them into a different framework, that fit and made sense to him, but it was how rivers work. And he loved it! And so when we get through with one of those experiences, that's like the biggest success of our day. That's the kind of science-based, people-first, trust building approach to environmental protection that we try to build into the program."

I want to know more about the science. What does a healthy river look like, I ask. Kline explains, "A stream in equilibrium has a shape, a slope, a depth, a meander pattern - all of which creates a balance of the energy that it produces to move water and sediment without being over-energized and scouring down the landscape, or losing its power such that the river fills and goes away. It's that vertical stability that keeps the river in its position in the landscape. So a stream that's in equilibrium reaches annual flood stage and then spills onto its flood plain, and that's what maintains depth. That's what keeps the power constant in a river. If you try to bottle it up - if you try to dredge it and berm it - you're energizing it and creating this disconnect from the flood plains. A river needs its flood plains - and we can calculate these things. There are predictive models that allow us to understand if a river is not in equilibrium, what are the changes that it's likely to go through in re-establishing that equilibrium, how much space is it going to need. That's how far we should stay back, because that's where it's going, whether we like it or not."

Given the trauma we all still feel after Irene, I asked Mike to talk with me about flooding. "Flooding is very beneficial to us," Kline says. "It's only a disaster when we get in the way. Flooding has lessons to offer - we've learned that man's control over nature that was such a dominant perspective for so long was very counter-productive to our true needs. That's been one of the gifts of science - we're learning about our place in nature and that our relationship with nature is there for a reason. We benefit from these natural processes. Our job is to use science to address the conflicts, so that rivers are healthy and so people also have safe, healthy communities."

Given the length and success of his career, I ask Mike whether he sees any trends right now, and what he feels they might mean for the future. He says there is a trend of people making deeper connections, and beginning to understand environmental issues and the relationships between them, and our quality of life. "Whether it's water quality, or climate change, or some of these overarching energy issues, people are more concerned. These issues are becoming a part of our daily conscience," Kline explains. "People are connecting the dots and they are speaking out. My optimistic view is that we are becoming a society that has the capacity to think in larger spatial and temporal scales. In order to be advanced beings on this earth that aren't just looking at the space right in front of our nose, we need to learn to make those connections and enhance our ability to look at the larger picture. Although my town doesn't suffer from erosion, if I protect my town it helps the downstream towns and that in turn benefits me. It's that broadening of self that I'm seeing, and that's great. That's the way rivers work. They operate in a space and time that is extremely large. It's not until you look at those scales that you understand the behavior of a river. Increasingly I see people with the ability to connect those dots and broaden their perspective."

We've talked for an hour, although it seems that no time has passed at all. I wrap things up by congratulating Kline, and by asking him what those of us who are not actively working in river science can do, to support healthy rivers and healthy communities. "Local involvement," is Kline's reply. "It is scary and hard for people to volunteer to make decisions that affect your neighbors," he explains. "It is hard work and those people need our support. We either need to join their ranks, or support them. Tell your local officials that our flood plains in our town are incredible assets and to please protect them. Just that simple statement empowers local officials. It is so much easier to implement change when the community is behind it. It is much more likely that towns will keep doing something good, or start something even better, if they know that their

community is behind them. We can all take time out of our busy lives to thank those folks who are making the hard decisions that are facing communities," Kline says.

“Anything else?” I ask. “If I can just caution one thing,” Kline says, “I would be horrified to have all of this ascribed just to me. I’ve had some great mentors, who have taught me, and brought me along. And I believe that's how we're going to get there," he finishes. "We’ve got to help each other along. One small step will lead to another, and we will get there if we bring people with us."